

Amendments to the Claims:

Claims 1, 2, 14, 15, 16, 28, 29, 30, and 42 have been amended. This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1 1. (Currently Amended) A method of providing information to a user based
2 upon contents of a first document displayed to the user, the method comprising:
3 identifying the first document displayed to the user;
4 identifying at least a first section of the first document;
5 extracting a first set of information objects from the first section of the first
6 document, the first set of information objects comprising at least a first information object
7 comprising information of a first type and a second information object comprising information of
8 a second type, wherein the first type is different from the second type;
9 determining degree of relevancy information for a second set of information
10 objects, the degree of relevancy information indicating the relevancy of information objects in
11 the second set of information objects to information objects in the first set of information objects;
12 and
13 selecting a third set of information objects from information objects in the second
14 set of information objects based upon the degree of relevancy information determined for
15 information objects in the second set of information objects, wherein information objects in the
16 third set of information objects store information to be output to the user when the first document
17 is being displayed to the user.

1 2. (Currently Amended) The method of claim 1 wherein the first section of the
2 first document corresponds to a section of the first document displayed to the user, wherein the
3 section of the first document displayed to the user is less than the entire first document.

1 3. (Original) The method of claim 1 wherein the first section of the first
2 document corresponds to the entire first document.

1 4. (Original) The method of claim 1 wherein extracting the first set of
2 information objects from the first section of the first document comprises:
3 for each information object in the first set of information objects:
4 identifying a type of the information object based upon contents of the
5 information object;
6 determining a first content recognition technique based upon the type of
7 the information object; and
8 applying the first content recognition technique to the information object
9 to determine information related to the contents of the information object.

1 5. (Original) The method of claim 1 wherein:
2 determining the degree of relevancy information for the second set of information
3 objects comprises:
4 identifying a plurality of selection techniques for determining the degree
5 of relevancy information; and
6 for each selection technique in the plurality of selection techniques,
7 applying the selection technique to generate relevancy scores for information objects in the
8 second set of information objects, the relevancy scores indicating the relevancy of information
9 objects in the second set of information objects to information objects in the first set of
10 information objects calculated using the selection technique; and
11 selecting the third set of information objects comprises:
12 selecting information objects from the second set of information objects to
13 be included in the third set of information objects based upon the relevancy scores for
14 information objects in the second set of information objects calculated using the plurality of
15 selection techniques.

1 6. (Original) The method of claim 5 wherein selecting information objects from
2 the second set of information objects to be included in the third set of information objects based

3 upon the relevancy scores for information objects in the second set of information objects
4 calculated using the plurality of selection techniques comprises:
5 for each information object in the second set of information objects:
6 calculating an aggregate relevancy score for the information object by
7 aggregating the relevancy scores generated for the information object by applying the plurality of
8 selection techniques; and
9 selecting the information object to be included in the third set of
10 information objects if the aggregated relevancy score calculated for the information object is
11 above a threshold value.

1 7. (Original) The method of claim 1 wherein:
2 determining the degree of relevancy information for the second set of information
3 objects comprises:
4 identifying a first selection technique and a second selection technique for
5 determining the degree of relevancy information; and
6 applying the first selection technique to generate a first set of relevancy
7 scores for information objects in the second set of information objects, the first set of relevancy
8 scores indicating the relevancy of information objects in the second set of information objects to
9 information objects in the first set of information objects calculated using the first selection
10 technique;
11 applying the second selection technique to generate a second set of
12 relevancy scores for information objects in the second set of information objects, the second set
13 of relevancy scores indicating the relevancy of information objects in the second set of
14 information objects to information objects in the first set of information objects calculated using
15 the second selection technique; and
16 selecting the third set of information objects comprises:
17 selecting information objects from the second set of information objects to
18 be included in the third set of information objects based upon the first set of relevancy scores and
19 the second set of relevancy scores.

1 8. (Original) The method of claim 7 wherein applying the first selection
2 technique to generate the first set of relevancy scores comprises:
3 determining a plurality of concepts of interest to the user;
4 determining relevancy of each information object in the first set of information
5 objects to each concept in the plurality of concepts;
6 determining relevancy of each information object in the second set of information
7 objects to each concept in the plurality of concepts; and
8 calculating the first set of relevancy scores based upon the relevancy of each
9 information object in the first set of information objects to each concept in the plurality of
10 concepts and based upon the relevancy of each information object in the second set of
11 information objects to each concept in the plurality of concepts, wherein each relevancy score in
12 the first set of relevancy scores indicates a degree of relevancy of an information object in the
13 second set of information objects to an information object in the first set of information objects
14 for a particular concept included in the plurality of concepts.

1 9. (Original) The method of claim 7 wherein applying the second selection
2 technique to generate the second set of relevancy scores comprises:
3 for each information object in the first set of information objects:
4 identifying a type of the information object based upon contents of the
5 information object;
6 determining a comparison technique based upon the type of the
7 information object; and
8 for each information object in the second set of information objects,
9 applying the comparison technique to generate a relevancy score for the information object in the
10 second set of information objects, the relevancy score indicating a degree of relevance of the
11 information object in the second set of information objects to the information object in the first
12 set of information objects using the comparison technique determined based upon the type of the
13 information object in the first set of information objects.

1 10. (Original) The method of claim 1 further comprising communicating the third
2 set of information objects to a user system which is used to output information stored by
3 information objects in the third set of information objects to the user.

1 11. (Original) The method of claim 1 wherein the first document is displayed to
2 the user using an access program and the information stored by information objects in the third
3 set of information objects is output to the user in a predetermined area of the access program.

1 12. (Original) The method of claim 11 wherein the access program is a web
2 browser and the first document is a web page.

1 13. (Original) The method of claim 1 further comprising:
2 determining when a second document is displayed to the user instead of the first
3 document;
4 identifying the second document displayed to the user;
5 identifying at least a first section of the second document;
6 extracting a fourth set of information objects from the first section of the second
7 document;
8 determining new degree of relevancy information for the second set of
9 information objects, the new degree of relevancy information indicating the relevancy of
10 information objects in the second set of information objects to information objects in the fourth
11 set of information objects; and
12 selecting a fifth set of information objects from information objects in the second
13 set of information objects based upon the new degree of relevancy information determined for
14 the second set of information objects, wherein information objects in the fifth set of information
15 objects store information to be output to the user when the second document is being displayed
16 to the user.

1 14. (Currently Amended) A method of providing information to a user based
2 upon contents of a document displayed to the user, the method comprising:

3 accessing a first set of content provider information objects (CPIOs);
4 identifying the document displayed to the user;
5 extracting a first set of user document information objects (UDIOs) from the
6 document, the first set of UDIOs comprising a first UDIO comprising information of a first type
7 and a second UDIO comprising information of a second type, wherein the first type is different
8 from the second type;
9 identifying a plurality of selection techniques for determining degree of relevancy
10 information for the first set of CPIOs;
11 for each selection technique in the plurality of selection techniques, applying the
12 selection technique to generate degree of relevancy information for the CPIOs, the degree of
13 relevancy information indicating the relevancy of the CPIOs to the UDIOs calculated using the
14 selection technique; and
15 selecting a second set of CPIOs from the first set of CPIOs based upon the degree
16 of relevancy information for the CPIOs calculated using the plurality of selection techniques,
17 wherein information objects in the second set of CPIOs store information to be output to the user
18 when the document is being displayed to the user.

1 15. (Currently Amended) A computer-program product stored on a computer
2 readable storage medium for providing information to a user based upon contents of a first
3 document displayed to the user, the computer-program product comprising:
4 code for identifying the first document displayed to the user;
5 code for identifying at least a first section of the first document;
6 code for extracting a first set of information objects from the first section of the
7 first document, the first set of information objects comprising at least a first information object
8 comprising information of a first type and a second information object comprising information of
9 a second type, wherein the first type is different from the second type;
10 code for determining degree of relevancy information for a second set of
11 information objects, the degree of relevancy information indicating the relevancy of information

12 objects in the second set of information objects to information objects in the first set of
13 information objects;
14 code for selecting a third set of information objects from information objects in
15 the second set of information objects based upon the degree of relevancy information determined
16 for information objects in the second set of information objects, wherein information objects in
17 the third set of information objects store information to be output to the user when the first
18 document is being displayed to the user.

1 16. (Currently Amended) The computer-program product of claim 15 wherein
2 the first section of the first document corresponds to a section of the first document displayed to
3 the user, wherein the section of the first document displayed to the user is less than the entire
4 first document.

1 17. (Original) The computer-program product of claim 15 wherein the first
2 section of the first document corresponds to the entire first document.

1 18. (Original) The computer-program product of claim 15 wherein the code for
2 extracting the first set of information objects from the first section of the first document
3 comprises:
4 for each information object in the first set of information objects:
5 code for identifying a type of the information object based upon contents
6 of the information object;
7 code for determining a first content recognition technique based upon the
8 type of the information object; and
9 code for applying the first content recognition technique to the information
10 object to determine information related to the contents of the information object.

1 19. (Original) The computer-program product of claim 15 wherein:
2 the code for determining the degree of relevancy information for the second set of
3 information objects comprises:

code for identifying a plurality of selection techniques for determining the degree of relevancy information; and

for each selection technique in the plurality of selection techniques, code for applying the selection technique to generate relevancy scores for information objects in the second set of information objects, the relevancy scores indicating the relevancy of information objects in the second set of information objects to information objects in the first set of information objects calculated using the selection technique; and

the code for selecting the third set of information objects comprises:

code for selecting information objects from the second set of information objects to be included in the third set of information objects based upon the relevancy scores for information objects in the second set of information objects calculated using the plurality of selection techniques.

20. (Original) The computer-program product of claim 19 wherein the code for selecting information objects from the second set of information objects to be included in the third set of information objects based upon the relevancy scores for information objects in the second set of information objects calculated using the plurality of selection techniques comprises:

for each information object in the second set of information objects:

code for calculating an aggregate relevancy score for the information object by aggregating the relevancy scores generated for the information object by applying the plurality of selection techniques; and

code for selecting the information object to be included in the third set of information objects if the aggregated relevancy score calculated for the information object is above a threshold value.

21. (Original) The computer-program product of claim 15 wherein:

the code for determining the degree of relevancy information for the second set of information objects comprises:

4 code for identifying a first selection technique and a second selection
5 technique for determining the degree of relevancy information; and
6 code for applying the first selection technique to generate a first set of
7 relevancy scores for information objects in the second set of information objects, the first set of
8 relevancy scores indicating the relevancy of information objects in the second set of information
9 objects to information objects in the first set of information objects calculated using the first
10 selection technique;
11 code for applying the second selection technique to generate a second set
12 of relevancy scores for information objects in the second set of information objects, the second
13 set of relevancy scores indicating the relevancy of information objects in the second set of
14 information objects to information objects in the first set of information objects calculated using
15 the second selection technique; and
16 the code for selecting the third set of information objects comprises:
17 code for selecting information objects from the second set of information
18 objects to be included in the third set of information objects based upon the first set of relevancy
19 scores and the second set of relevancy scores.

1 22. (Original) The computer-program product of claim 21 wherein the code for
2 applying the first selection technique to generate the first set of relevancy scores comprises:
3 code for determining a plurality of concepts of interest to the user;
4 code for determining relevancy of each information object in the first set of
5 information objects to each concept in the plurality of concepts;
6 code for determining relevancy of each information object in the second set of
7 information objects to each concept in the plurality of concepts; and
8 code for calculating the first set of relevancy scores based upon the relevancy of
9 each information object in the first set of information objects to each concept in the plurality of
10 concepts and based upon the relevancy of each information object in the second set of
11 information objects to each concept in the plurality of concepts, wherein each relevancy score in
12 the first set of relevancy scores indicates a degree of relevancy of an information object in the

13 second set of information objects to an information object in the first set of information objects
14 for a particular concept included in the plurality of concepts.

1 23. (Original) The computer-program product of claim 21 wherein the code for
2 applying the second selection technique to generate the second set of relevancy scores
3 comprises:
4 for each information object in the first set of information objects:
5 code for identifying a type of the information object based upon contents
6 of the information object;
7 code for determining a comparison technique based upon the type of the
8 information object; and
9 for each information object in the second set of information objects, code
10 for applying the comparison technique to generate a relevancy score for the information object in
11 the second set of information objects, the relevancy score indicating a degree of relevance of the
12 information object in the second set of information objects to the information object in the first
13 set of information objects using the comparison technique determined based upon the type of the
14 information object in the first set of information objects.

1 24. (Original) The computer-program product of claim 15 further code for
2 communicating the third set of information objects to a user system which is used to output
3 information stored by information objects in the third set of information objects to the user.

1 25. (Original) The computer-program product of claim 15 further comprising
2 code for outputting information stored by information objects in the third set of information
3 objects to the user in a predetermined area of an access program which is used to display the first
4 document to the user.

1 26. (Original) The computer-program product of claim 25 wherein the access
2 program is a web browser and the first document is a web page.

1 27. (Original) The computer-program product of claim 15 further comprising:

code for determining when a second document is displayed to the user instead of the first document;
code for identifying the second document displayed to the user;
code for identifying at least a first section of the second document;
code for extracting a fourth set of information objects from the first section of the second document;
code for determining new degree of relevancy information for the second set of information objects, the new degree of relevancy information indicating the relevancy of information objects in the second set of information objects to information objects in the fourth set of information objects; and
code for selecting a fifth set of information objects from information objects in the second set of information objects based upon the new degree of relevancy information determined for the second set of information objects, wherein information objects in the fifth set of information objects store information to be output to the user when the second document is being displayed to the user.

28. (Currently Amended) A computer-program product stored on a computer readable storage medium for providing information to a user based upon contents of a document displayed to the user, the computer-program product comprising:

code for accessing a first set of content provider information objects (CPIOs);
code for identifying the document displayed to the user;
code for extracting a first set of user document information objects (UDIOs) from the document, the first set of UDIOs comprising a first UDIO comprising information of a first type and a second UDIO comprising information of a second type, wherein the first type is different from the second type;

code for identifying a plurality of selection techniques for determining degree of relevancy information for the first set of CPIOs;

for each selection technique in the plurality of selection techniques, code for applying the selection technique to generate degree of relevancy information for the CPIOs, the

14 degree of relevancy information indicating the relevancy of the CPIOs to the UDIOs calculated
15 using the selection technique; and

16 code for selecting a second set of CPIOs from the first set of CPIOs based upon
17 the degree of relevancy information for the CPIOs calculated using the plurality of selection
18 techniques, wherein information objects in the second set of CPIOs store information to be
19 output to the user when the document is being displayed to the user.

1 29. (Currently Amended) A system for providing information to a user based
2 upon contents of a first document displayed to the user, the system comprising:

3 a processor;

4 a memory coupled to the processor, the memory configured to store a plurality of
5 code modules for execution by the processor, the plurality of code modules comprising:

6 a code module for identifying the first document displayed to the user;

7 a code module for identifying at least a first section of the first document;

8 a code module for extracting a first set of information objects from the
9 first section of the first document, the first set of information objects comprising at least a first
10 information object comprising information of a first type and a second information object
11 comprising information of a second type, wherein the first type is different from the second type;

12 a code module for determining degree of relevancy information for a
13 second set of information objects, the degree of relevancy information indicating the relevancy
14 of information objects in the second set of information objects to information objects in the first
15 set of information objects; and

16 a code module for selecting a third set of information objects from
17 information objects in the second set of information objects based upon the degree of relevancy
18 information determined for information objects in the second set of information objects, wherein
19 information objects in the third set of information objects store information to be output to the
20 user when the first document is being displayed to the user.

1 30. (Currently Amended) The system of claim 29 wherein the first section of
2 the first document corresponds to a section of the first document displayed to the user, wherein
3 the section of the first document displayed to the user is less than the entire first document.

1 31. (Original) The system of claim 29 wherein the first section of the first
2 document corresponds to the entire first document.

1 32. (Original) The system of claim 29 wherein the code module for extracting the
2 first set of information objects from the first section of the first document comprises:

3 for each information object in the first set of information objects:

4 a code module for identifying a type of the information object based upon
5 contents of the information object;

6 a code module for determining a first content recognition technique based
7 upon the type of the information object; and

8 a code module for applying the first content recognition technique to the
9 information object to determine information related to the contents of the information object.

1 33. (Original) The system of claim 29 wherein:
2 the code module for determining the degree of relevancy information for the
3 second set of information objects comprises:

4 a code module for identifying a plurality of selection techniques for
5 determining the degree of relevancy information; and

6 for each selection technique in the plurality of selection techniques, a code
7 module for applying the selection technique to generate relevancy scores for information objects
8 in the second set of information objects, the relevancy scores indicating the relevancy of
9 information objects in the second set of information objects to information objects in the first set
10 of information objects calculated using the selection technique; and

11 the code module for selecting the third set of information objects comprises:

12 a code module for selecting information objects from the second set of
13 information objects to be included in the third set of information objects based upon the
14 relevancy scores for information objects in the second set of information objects calculated using
15 the plurality of selection techniques.

1 34. (Original) The system of claim 33 wherein the code module for selecting
2 information objects from the second set of information objects to be included in the third set of
3 information objects based upon the relevancy scores for information objects in the second set of
4 information objects calculated using the plurality of selection techniques comprises:
5 a code module for calculating an aggregate relevancy score for each information
6 object in the second set of information objects by aggregating the relevancy scores generated for
7 the information object by applying the plurality of selection techniques; and
8 a code module for selecting an information object from the second set of information objects to
9 be included in the third set of information objects if the aggregated relevancy score calculated for
10 the information object is above a threshold value.

1 35. (Original) The system of claim 29 wherein:
2 the code module for determining the degree of relevancy information for the
3 second set of information objects comprises:
4 a code module for identifying a first selection technique and a second
5 selection technique for determining the degree of relevancy information; and
6 a code module for applying the first selection technique to generate a first
7 set of relevancy scores for information objects in the second set of information objects, the first
8 set of relevancy scores indicating the relevancy of information objects in the second set of
9 information objects to information objects in the first set of information objects calculated using
10 the first selection technique;
11 a code module for applying the second selection technique to generate a
12 second set of relevancy scores for information objects in the second set of information objects,
13 the second set of relevancy scores indicating the relevancy of information objects in the second

14 set of information objects to information objects in the first set of information objects calculated
15 using the second selection technique; and
16 the code module for selecting the third set of information objects comprises:
17 a code module for selecting information objects from the second set of
18 information objects to be included in the third set of information objects based upon the first set
19 of relevancy scores and the second set of relevancy scores.

1 36. (Original) The system of claim 35 wherein the code module for applying the
2 first selection technique to generate the first set of relevancy scores comprises:
3 a code module for determining a plurality of concepts of interest to the user;
4 a code module for determining relevancy of each information object in the first
5 set of information objects to each concept in the plurality of concepts;
6 a code module for determining relevancy of each information object in the second
7 set of information objects to each concept in the plurality of concepts; and
8 a code module for calculating the first set of relevancy scores based upon the
9 relevancy of each information object in the first set of information objects to each concept in the
10 plurality of concepts and based upon the relevancy of each information object in the second set
11 of information objects to each concept in the plurality of concepts, wherein each relevancy score
12 in the first set of relevancy scores indicates a degree of relevancy of an information object in the
13 second set of information objects to an information object in the first set of information objects
14 for a particular concept included in the plurality of concepts.

1 37. (Original) The system of claim 35 wherein the code module for applying the
2 second selection technique to generate the second set of relevancy scores comprises:
3 for each information object in the first set of information objects:
4 a code module for identifying a type of the information object based upon
5 contents of the information object;
6 a code module for determining a comparison technique based upon the
7 type of the information object; and

8 for each information object in the second set of information objects, a
9 code module for applying the comparison technique to generate a relevancy score for the
10 information object in the second set of information objects, the relevancy score indicating a
11 degree of relevance of the information object in the second set of information objects to the
12 information object in the first set of information objects using the comparison technique
13 determined based upon the type of the information object in the first set of information objects.

1 38. (Original) The system of claim 29 wherein the plurality of code modules
2 further comprises:

3 a code module for communicating the third set of information objects to a user
4 system which is used to output information stored by information objects in the third set of
5 information objects to the user.

1 39. (Original) The system of claim 29 wherein the first document is displayed to
2 the user using an access program and information stored by information objects in the third set of
3 information objects is output to the user in a predetermined area of the access program.

1 40. (Original) The system of claim 39 wherein the access program is a web
2 browser and the first document is a web page.

1 41. (Original) The system of claim 29 wherein the plurality of code modules
2 further comprises:

3 a code module for determining when a second document is displayed to the user
4 instead of the first document;

5 a code module for identifying the second document displayed to the user;

6 a code module for identifying at least a first section of the second document;

7 a code module for extracting a fourth set of information objects from the first
8 section of the second document;

9 a code module for determining new degree of relevancy information for the
10 second set of information objects, the new degree of relevancy information indicating the

11 relevancy of information objects in the second set of information objects to information objects
12 in the fourth set of information objects; and
13 a code module for selecting a fifth set of information objects from information
14 objects in the second set of information objects based upon the new degree of relevancy
15 information determined for the second set of information objects, wherein information objects in
16 the fifth set of information objects store information to be output to the user when the second
17 document is being displayed to the user.

1 42. (Currently Amended) A system for providing information to a user based
2 upon contents of a document displayed to the user, the system comprising:
3 a user system displaying the first document to the user; and
4 a server system coupled to the user system;
5 wherein the server system is configured to:
6 access a first set of content provider information objects (CPIOs);
7 identify the document displayed to the user;
8 extract a first set of user document information objects (UDIOs) from the
9 document, the first set of UDIOs comprising a first UDIO comprising information of a first type
10 and a second UDIO comprising information of a second type, wherein the first type is different
11 from the second type;
12 identify a plurality of selection techniques for determining degree of
13 relevancy information for the first set of CPIOs;
14 for each selection technique in the plurality of selection techniques, apply
15 the selection technique to generate degree of relevancy information for the CPIOs, the degree of
16 relevancy information indicating the relevancy of the CPIOs to the UDIOs calculated using the
17 selection technique; and
18 select a second set of CPIOs from the first set of CPIOs based upon the
19 degree of relevancy information for the CPIOs calculated using the plurality of selection
20 techniques; and

21 wherein the user system is configured to output information stored by the second
22 set of CPIOs to the user.

1 43. (Original) The system of claim 42 wherein at least one CPIO included in the
2 first set of CPIOs is provided by a content provider system coupled to the server system.

1 44. (Original) The system of claim 42 wherein the first set of CPIOs comprises a
2 first CPIO and a second CPIO, wherein the first CPIO is provided by a first content provider
3 system coupled to the server system and the second CPIO is provided by a second content
4 provider system coupled to the server system.

Appl. No. 09/905,036
Amdt. dated July 12, 2004
Reply to Office Action of March 11, 2004

PATENT

Amendments to the Drawings:

A replacement drawing sheet is attached including changes to Fig. 7. This sheet, which includes Fig. 7, replaces the original sheet including Fig. 7. An annotated drawing sheet showing the changes is also attached.

Attachment: Replacement Sheet
Annotated Sheet Showing Changes